

SIDC53D120H6

Fast switching diode chip in EMCON-Technology

FEATURES:

- 1200V EMCON technology 120 μm chip
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient

This chip is used for:

EUPEC power modules and discrete devices



Applications:

• SMPS, resonant applications, drives

Chip Type	V_R	I _F	Die Size	Package	Ordering Code
SIDC53D120H6	1200V	100A	7.3 x 7.3 mm ²	sawn on foil	Q67050-A4100

MECHANICAL PARAMETER:

Poster size	7 2 v 7 2		
Raster size	7.3 x 7.3	mm^2	
Area total / active	53.29 / 44.22		
Anode pad size	6.58 x 6.58		
Thickness	120	μm	
Wafer size	150	mm	
Flat position	180	deg	
Max. possible chips per wafer 304 pcs			
Passivation frontside	Photoimide		
Anode metallisation	3200 nm AlSiCu		
Cathode metallisation	1400 nm Ni Ag –system suitable for epoxy and soft solder die bonding		
Die bond	electrically conductive glue or solder		
Wire bond	AI, ≤500μm		
Reject Ink Dot Size	Ø 0.65mm ; max 1.2mm		
Recommended Storage Environment	store in original container, in dry nitrogen, < 6 month at an ambient temperature of 23°C		



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Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}		1200	V
Continuous forward current limited by	,		100	
T_{jmax}	/ _F		100	
Single pulse forward current	/ _{FSM}	$t_P = 10 \text{ ms sinusoidal}$	tbd	A
(depending on wire bond configuration)	'FSM	tp = 10 ms sinusoidar		
Maximum repetitive forward current	,		200	
limited by T _{jmax}	I _{FRM}		200	
Operating junction and storage temperature	$T_{\rm j}$, $T_{ m stg}$		-55+150	°C

Static Electrical Characteristics (tested on chip), T_j =25 °C, unless otherwise specified

Parameter	Symbol	Cond	Value			Unit	
raiailletei	Syllibol	Conditions		min.	Тур.	max.	
Reverse leakage current	I_{R}	V _R =1200V	<i>T_j</i> =25 °C			27	μΑ
Cathode-Anode breakdown Voltage	V _{Br}	I _R =4mA	<i>T_j</i> =25°C	1200			V
Forward voltage drop	V _F	I _F =100A	T _j =25°C		1.6		V

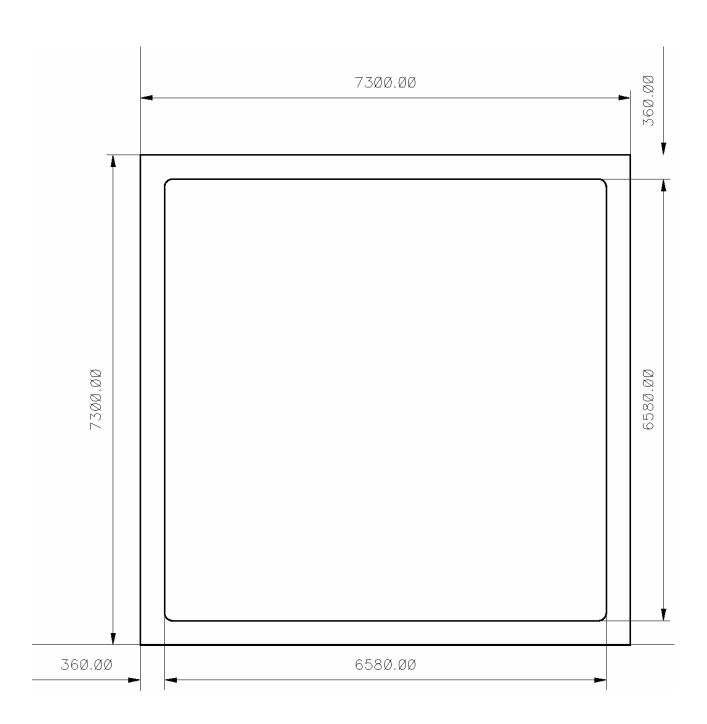
Dynamic Electrical Characteristics, at $T_j = 25$ °C, unless otherwise specified, tested at component

Parameter	Symbol	Conditions		Value			Unit
raiailletei	Syllibol			min.	Тур.	max.	7 51111
Reverse recovery time	t _{rr1}	I _F =100A	$T_j = 25$ °C		tbd		
	t _{rr2}	$di/dt=1100A/ms$ $V_R=600V$	$T_j = 125$ °C				ns
Peak recovery current	I _{RRM1}	I _F =100A	$T_j = 25$ °C		119.8		_
	I _{RRM2}	$V_{R} = 600V$	$T_j = 125$ °C		127.5		A
Reverse recovery charge	Q _{rr1}	I _F =100A	T _j =25°C		10		C
	Q _{rr2}	$di/dt=1100A/ms$ $V_R=600V$	T _j =125°C		18		μC
Peak rate of fall of reverse	e di_{rr1}/dt $I_F=100A$		T _j =25°C		tbd		Α./
recovery current	di _{rr2} /dt	$di/dt=1100A/ms$ $V_R=600V$	T _j =125°C				A/μs
Softness	S1	I _F =100A	T _j =25°C		tbd		1
S	S2	$di/dt=1100A/ms$ $V_R=600V$	T _j =125°C				



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CHIP DRAWING:





Preliminary

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FURTHER ELECTRICAL CHARACTERISTICS:

This chip data sheet refers to the device data sheet	INFINEON TECHNOLOGIES / EUPEC	tbd

Description:

AQL 0,65 for visual inspection according to failure catalog

Electrostatic Discharge Sensitive Device according to MIL-STD 883

Test-Normen Villach/Prüffeld

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